Amendment Under 37 C.F.R. § 1.111
U.S. Appln. No.: 09/518,099

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AMENDMENTS TO THE SPECIFICATION

The specification is changed as follows:

Please amend the paragraph bridging pages 11-13 as follows:

The logical printer driver converts data of the application into a print job 1300 shown in FIG. 11 and stores the print job 1300 in a spool 204. The print job 1300 comprises print information 1320 recording the print instruction contents and print data 1310 of the PDL recording the drawing contents. When the print job 1300 is stored in the spool 204, a spool control section 203 interprets the print information 1320. First, the print information 1320 is checked on the print mode 800. If the storage 802 is not set to store the print job in the printer 100 (Setting contents = No), no operation is performed. If the storage 802 is set to store the print job in the printer 100 (Setting contents = Yes) , the storage format 810 is checked. If the PDL 811 is not set to store the PDL document (Setting contents = No), no operation is performed. If the PDL 802 is set to store the PDL document (Setting contents = Yes), the print job 1300 is copied into an archive 202 and is stored therein. Next, the print 801 is checked. If the print 801 is not set to print the print job onto the sheet (Setting contents = No), no operation is performed. If print 801 is set to print the print job onto the sheet (Setting contents = Yes), the print job 1300 is sent to a PDL processing section 206, which then processes the print ~~job~~ data 1310 in accordance with the output format 860 in the print information 1320.

Here, as a processing example, processing of 2UP will be discussed with reference to FIGS. 7 and 8. First, the format of the print data 1310 of the PDL will be discussed. The print data 1310 is in a general PDL format as shown in FIG. 7. The print data 1310 begins with a header 910. Generally, a print execution user name, application name, and the like are described

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in the header 910. The header 910 is followed by data concerning page 1 (920) to page N (950).

The data concerning each page is similar and the page 1 (920) is used to describe the format. The

page 1 (920) comprises drawing data 921 describing drawing on the page 1 in a programming

language and an output instruction 922 indicating the end of the page 1 (920). If the page 1

(920) does not contain the output instruction 922, it is not output even if the drawing data 921 is

executed.

FIG. 8 shows the print data 1310 in FIG. 7 processed to the 2UP. Since an output

instruction 1022 is deleted, drawing data 1021 is not output and subsequently drawing data 1031

on page 2 (1030) is executed. Since the page 2 (1030) contains an output instruction 1032, here

the drawing data 1021 on page 1 (1020) and the drawing data 1031 on the page 2 (1030) are

output together. Likewise, the subsequent data is output for two pages at a time ~~upto~~ up to page

N (1050).

Please amend the paragraph bridging pages 15-17 as follows:

As shown in FIG. 12, a print job 1300 prepared by a logical printer driver 302 is stored in

a spool 204 and is sent to an interpreter section 207, as previously described in the first

embodiment. The print data of the sent print job 1300 is converted into a dot image and print

data 1310 is overwritten with the print data in the dot image, then the print data in the dot image

is stored in an output work 209. An output control section 208 interprets print information 1320.

First, the print information 1320 is checked on a print mode 800. If the storage 802 is not set to

store the print job in the printer (Setting contents = No), no operation is performed. If the storage

802 is set to store the print job in the printer (Setting contents = Yes), a storage format 810 is

checked. If the dot image 812 is not set to store the dot image (Setting contents = No), no

operation is performed. If the dot image 812 is set to store the dot image (Setting contents =

Yes), the print job 1300 is copied into an archive 202 and is stored therein. Next, the print 801 is

checked. If the print 801 is not set to print the print job onto the sheet (Setting contents = No),

no operation is performed. If the print 801 is set to print the print job onto the sheet (Setting

contents = Yes), the print job 1300 is sent to a dot image processing section 205, which then

processes the print ~~job~~ data 1310 in accordance with an output format 860 in the print

information 1320.

Here, as a processing example, processing of the 2UP will be discussed with reference to

FIGS. 9 and 10. First, the format of the print data 1310 of dot image will be discussed. The print

data 1310 is in a general dot image format as shown in FIG. 9. The print data 1310 begins with a

header 1110. Generally, a print execution user name, application name, and the like are

described in the header 1110. The header 1110 is followed by data concerning page 1 (1120) to

page N (1150). The data concerning each page is similar and the page 1 (1120) is used to

describe the format. The page 1 (1120) consists of page 1 drawing data 1122 describing drawing

on the page 1 in a binary format and page 1 drawing data size 1121 indicating the size of the

data. FIG. 10 shows the print data 1310 in FIG. 9 processed to the 2UP. New page 1 (122 0)

comprises a listing of the page 1 (1120) and page 2 (1130). New page 1 drawing data size

indicates the total size of the page 1 drawing data size 1121 and page 2 drawing data size 1131,

and new page 1 drawing data 1222 is provided by combining the page 1 drawing data 1122 and

page 2 drawing data 1132. Likewise, the subsequent data is arranged for two pages at a time to

new page N/2 (1150). The print job 1300 containing the print data 1310 thus processed is sent to

the output work 209. The output control section 208 outputs the print data 1310 to a print engine

500 in accordance with the print information 1320.

Thus, needs for outputting in various formats in response to the application in the print

system are high and the dot image needs to be processed. However, it is extremely difficult to

restore the combined and processed dot image to the original or convert the combined and

processed dot image into a different format. Hitherto, stored print data has already been

processed and unable to be again printed in a different format and has been again printed only in

the stored format. To print the print data in a different format, it has been necessary to again

output the print data from the beginning from the application. In the invention, to store the print

job, the standard print job is stored as the original and when the print job is actually printed, the

print data is processed in accordance with the print information, whereby the print job can be

reprinted in the format responsive to the application as many times as required. The dot image is

in the format in which it can be output to the printer engine intact, and the dot image is stored in

the format, thus making it possible to print the dot image at high speed.

Please amend the paragraph bridging pages 21 and 22 as follows:

First, the reprinting procedure described in the first embodiment, the second embodiment,

the third embodiment, and the fourth embodiment will be discussed using an example. FIG. 17

is a state diagram to show storing of Document1 (1610) in an archive 202 as a print job. The

Document1 (1610) is made up of print data 1611 and added print information 1612 and print

information 1 (1613) as print information. When a reprinting instruction of the Document1

(1610) is given from a computer 300, a spool control section 203 moves print information to a

spool 204. For example, if "print information 1" is selected in a print information name 3410 on

an instruction screen in FIG. 24, the contents of the print information 1 (1613) are, for example,

as shown in FIG. 26. A dot image processing section 205 or a PDL processing section 206

interprets the print information 1 (1613) and processes print data in the storage location indicated

in a print data storage location ~~3140~~ 204. Thus, the spooled print job contents are print

information only and print data of a comparatively large data size is accessed after the location of

the print data is found from the print information, whereby it is made possible to reduce the copy

time and the hard disk capacity.